

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1.(Currently amended) A method for copying data, comprising:

receiving, from a host, a request including an indicator at a first storage control unit having a first set of volumes, wherein the first storage control unit is coupled via a link to a second storage control unit having a second set of volumes that are peer-to-peer copies of the first set of volumes, and wherein the second storage control unit does not have an active link for receiving commands from a device other than the first storage control unit; and wherein the request is for generating a copy of the first and second set of volumes in a third set of volumes in the second storage control unit; and

determining, by processing the indicator included in the request, at the first storage control unit, whether to transmit a command from the first storage control unit to the second storage control unit to generate a copy of the second set of volumes to a third set of volumes at the second storage control unit;

transmitting [[a]] the command, via the link, from the first storage control unit to the second storage control unit, in response to determining by processing the indicator that the command is to be transmitted, to the second storage control unit; wherein the transmitted command is capable of causing the second storage control unit to generate the copy of the first and second set of volumes in the third set of volumes in the second storage control unit.

copying, at the second storage control unit, the second set of volumes to the third set of volumes, in response to receiving the transmitted command at the second storage control unit from the first storage control unit; and

performing operations at the first storage control unit, and not transmitting the command from the first storage control unit to the second storage control unit to generate a copy of the second set of volumes to the third set of volumes at the second storage control unit, in response to determining by processing the indicator that the command is not to be transmitted, to the second storage control unit.

2.(Currently amended) The method of claim [[1]] 4, wherein on completion of the copying, at the second storage control unit, of the second set of volumes to the third set of volumes, data in the first set of volumes is consistent at a point in time with data in both the second set of volumes and the third set of volumes, further comprising:

copying the second set of volumes to the third set of volume in the second storage control unit, wherein the copy is consistent at a point in time.

3. (Original) The method of claim 2, wherein copying the second set of volumes to the third set of volumes is performed by a point-in-time copy operation.

4.(Currently amended) The method of claim 1, wherein the second storage control unit does not have an active link for receiving commands from a device other than the first storage control unit wherein the indicator is a flag, wherein processing the indicator further comprises determining whether the flag is set to on, and wherein if the flag is set to on then the command is to be transmitted from the first storage unit to the second storage control unit,

5. (Currently amended) The method of claim [[1]] 4, wherein the second set of volumes that are peer-to-peer copies of the first set of volumes are generated synchronously from the first set of volumes, and wherein the data in the first set of volumes is consistent with the data in the second set of volumes, further comprising:

generating synchronous peer-to-peer copies of the first set of volumes to the second set of volumes.

6. (Currently amended) The method of claim [[1]] 4, wherein the request is a FlashCopy command for point-in-time copying of data including an indicator that indicates that a FlashCopy operation is to be performed remotely from the first storage control unit, and wherein the FlashCopy command is received from a host coupled to the first storage control unit, the method further comprising:

signalling the host that the copy has been generated the copying, at the second storage control unit, of the second set of volumes to the third set of volumes has been completed.

7. (Currently amended) A system for copying data, comprising:

a first storage control unit;

a second storage control unit;

a link coupling the first storage control unit to the second storage control unit;

a host coupled to the first storage control unit;

means for receiving, from the host, a request including an indicator at the first storage control unit having a first set of volumes, wherein the second storage control unit has a second set of volumes that are peer-to-peer copies of the first set of volumes, and wherein the second storage control unit does not have an active link for receiving commands from a device other than the first storage control unit;

means for determining, by processing the indicator included in the request, at the first storage control unit, whether to transmit a command from the first storage control unit to the second storage control unit to generate a copy of the second set of volumes to a third set of volumes at the second storage control unit;

means for transmitting the command, via the link, from the first storage control unit to the second storage control unit, in response to determining by processing the indicator that the command is to be transmitted, to the second storage control unit;

means for copying, at the second storage control unit, the second set of volumes to the third set of volumes, in response to receiving the transmitted command at the second storage control unit from the first storage control unit; and

means for performing operations at the first storage control unit, and not transmitting the command from the first storage control unit to the second storage control unit to generate a copy of the second set of volumes to the third set of volumes at the second storage control unit, in response to determining by processing the indicator that the command is not to be transmitted, to the second storage control unit.

means for receiving a request at the first storage control unit having a first set of volumes, wherein the first storage unit is coupled via the link to the second storage control unit having a second set of volumes that are peer-to-peer copies of the first set of volumes, and wherein the request is for generating a copy of the first and second set of volumes in a third set of volumes in the second storage control unit; and

~~transmitting a command, via the link, from the first storage control unit to the second storage control unit, wherein the transmitted command is capable of causing the second storage control unit to generate the copy of the first and second set of volumes in the third set of volumes in the second storage control unit.~~

8. (Currently amended) The system of claim [[7]] 10, wherein on completion of the copying, at the second storage control unit, of the second set of volumes to the third set of volumes, data in the first set of volumes is consistent at a point in time with data in both the second set of volumes and the third set of volumes, further comprising:

~~means for copying the second set of volumes to the third set of volume in the second storage control unit, wherein the copy is consistent at a point in time.~~

9. (Original) The system of claim 8, wherein copying the second set of volumes to the third set of volumes is performed by a point-in-time copy operation.

10. (Currently amended) The system of claim 7, wherein the indicator is a flag, wherein processing the indicator further comprises determining whether the flag is set to on, and wherein if the flag is set to on then the command is to be transmitted from the first storage unit to the second storage control unit, wherein the second storage control unit does not have an active link for receiving commands from a device other than the first storage control unit.

11. (Currently amended) The system of claim [[7]] 10, wherein the second set of volumes that are peer-to-peer copies of the first set of volumes are generated synchronously from the first set of volumes, and wherein the data in the first set of volumes is consistent with the data in the second set of volumes, further comprising:

~~means for generating synchronous peer-to-peer copies of the first set of volumes to the second set of volumes.~~

12. (Currently amended) The system of claim [[7]] 10, wherein the request is a command for point-in-time copying of data, the system further comprising:

means for signalling the host that the copying, at the second storage control unit, of the second set of volumes to the third set of volumes has been completed, wherein the request is a FlashCopy command including an indicator that indicates that an FlashCopy operation is to be performed remotely from the first storage control unit, and wherein the FlashCopy command is received from a host coupled to the first storage control unit, the system further comprising: means for signalling the host that the copy has been generated.

13. (Currently amended) A article of manufacture comprising a computer readable storage medium for copying data, wherein the article of manufacture is capable of causing operations on at least a first storage control unit coupled to a host, the operations comprising:

receiving, from the host, a request including an indicator at the first storage control unit having a first set of volumes, wherein the first storage control unit is coupled via a link to a second storage control unit having a second set of volumes that are peer-to-peer copies of the first set of volumes, and wherein the second storage control unit does not have an active link for receiving commands from a device other than the first storage control unit;

determining, by processing the indicator included in the request, at the first storage control unit, whether to transmit a command from the first storage control unit to the second storage control unit to generate a copy of the second set of volumes to a third set of volumes at the second storage control unit;

transmitting the command, via the link, from the first storage control unit to the second storage control unit, in response to determining by processing the indicator that the command is to be transmitted, to the second storage control unit;

copying, at the second storage control unit, the second set of volumes to the third set of volumes, in response to receiving the transmitted command at the second storage control unit from the first storage control unit; and

performing execution of instructions at the first storage control unit, and not transmitting the command from the first storage control unit to the second storage control unit to generate a copy of the second set of volumes to the third set of volumes at the second storage control unit, in response to determining by processing the indicator that the command is not to be transmitted, to the second storage control unit, receiving a request at a first storage control unit having a first set of volumes, wherein the first storage unit is coupled via a link to a second

~~storage control unit having a second set of volumes that are peer to peer copies of the first set of volumes, and wherein the request is for generating a copy of the first and second set of volumes in a third set of volumes in the second storage control unit; and~~

~~transmitting a command, via the link, from the first storage control unit to the second storage control unit, wherein the transmitted command is capable of causing the second storage control unit to generate the copy of the first and second set of volumes in the third set of volumes in the second storage control unit.~~

14. (Currently amended) The article of manufacture of claim [[13]] ~~16, wherein on completion of the copying, at the second storage control unit, of the second set of volumes to the third set of volumes, data in the first set of volumes is consistent at a point in time with data in both the second set of volumes and the third set of volumes, the operations further comprising:~~
~~copying the second set of volumes to the third set of volume in the second storage control unit, wherein the copy is consistent at a point in time.~~

15. (Original) The article of manufacture of claim 14, wherein copying the second set of volumes to the third set of volumes is performed by a point-in-time copy operation.

16. (Currently amended) The article of manufacture of claim 13, ~~wherein on completion of the copying, at the second storage control unit, of the second set of volumes to the third set of volumes, data in the first set of volumes is consistent at a point in time with data in both the second set of volumes and the third set of volumes, wherein the second storage control unit does not have an active link for receiving commands from a device other than the first storage control unit.~~

17. (Currently amended) The article of manufacture of claim [[13]] ~~16, wherein the second set of volumes that are peer-to-peer copies of the first set of volumes are generated synchronously from the first set of volumes, and wherein the data in the first set of volumes is consistent with the data in the second set of volumes, the operations further comprising:~~
~~generating synchronous peer-to-peer copies of the first set of volumes to the second set of volumes.~~

18. (Currently amended) The article of manufacture of claim [[13]] 16, wherein the request is a command for point-in-time copying of data, the operations further comprising:

signalling the host that the copying, at the second storage control unit, of the second set of volumes to the third set of volumes has been completed, wherein the request is a FlashCopy command including an indicator that indicates that an FlashCopy operation is to be performed remotely from the first storage control unit, and wherein the FlashCopy command is received from a host coupled to the first storage control unit, the operations further comprising:

signalling the host that the copy has been generated.